

Claims

1. Hydrodynamic converter for the power train of a motor vehicle comprising one pump (2), one turbine (3) connected with the transmission input shaft (4) and one stator (guide wheel) (5), in which said pump (2) is detachably connectable via a primary clutch (PK) with the input (6) of the engine, characterized in that said primary clutch (PK) is situated in the transmission (G).

2. Hydrodynamic converter according to Claim 1, characterized in that said primary clutch (PK) connects the input (6) of said engine with the hub (8) of said pump (2) via the converter shell (7).

3. Hydrodynamic converter according to Claim 1 or 2, characterized in that the outer disc carrier of said primary clutch (PK) is connected with said converter shell (7) and that said inner carrier of said primary clutch (PK) is connected with said pump hub (8).

4. Hydrodynamic converter according to Claim 1, 2, 3, characterized in that said primary clutch (PK) is sealed relative to the oil of said converter (1), is lubricated and cooled by the transmission oil and is closed with transmission system pressure, the pressure being regulated with or without a pressure ramp independently of the converter pressure.

5. Hydrodynamic converter according to Claim 1, 2, 3, characterized in that said primary clutch (PK) is flowed through by converter oil and closed with transmission system pressure.

6. Hydrodynamic converter according to Claim 5, characterized in that the gap between pump hub (8) and guide wheel shaft (9) is sealed so that the oil can be fed to the inner disc carrier of said primary clutch (PK), said inner disc carrier having apertures (10) in a manner such that the oil arrives at the discs through said apertures (10), grooves being provided in the friction lining which outwardly convey the oil and the oil flowing axially to said converter (1) into the gap between pump hub (8) and converter shell (7) and via holes in the gap between pump hub (8) and guide wheel shaft (9).

7. Hydrodynamic converter according to Claim 1, 2, 3, characterized in that said primary clutch (PK) can be closed with spring force and opened with pressure, said pressure being regulatable with or without a pressure ramp.

8. Hydrodynamic converter according to Claim 7, characterized in that said primary clutch (PK) has a baffle plate (16) so as to achieve a rotation-pressure compensation.

9. Hydrodynamic converter according to Claim 1, 2, 3, characterized in that said primary clutch (PK) is actuatable by the converter pressure and converter oil flows therethrough.

10. Hydrodynamic converter according to Claim 9, characterized in that said primary clutch (PK) can be closed by lowering the pressure behind said piston (11) of said primary clutch (PK).

11. Hydrodynamic converter according to Claim 9, characterized in that said primary clutch (PK) can be closed by means of the force of a spring (12), said piston (11) being movable by the converter pressure against said spring (12) by lowering the pressure behind said piston (11) so that said primary clutch (PK) opens.

12. Hydrodynamic converter according to any one of Claims 5, 6, 9, 10, or 11, characterized in that for exact regulation of the torque of said primary clutch (PK), the converter pressure can be measured for determining the clutch actuation pressure via a return of the pressure to the control valve or by means of a pressure sensor.

13. Hydrodynamic converter according to any one of the preceding claims, characterized in that upon the outer border of said primary clutch (PK) a toothing is mounted which can be used for driving accessory units, PTO's direct engine-driven gears and/or to caliper the engine rotational speed.

14. Hydrodynamic converter according to any one of the preceding claims, characterized in that said primary clutch comprises one pressure sensor (14) for detecting the piston pressure and/or one rotational speed sensor (15) for detecting the pump rotational speed.

15. Hydrodynamic converter according to any one of the preceding claims, characterized in that it has one converter lock-up clutch (WK).

16. Hydrodynamic converter according to any one of the preceding claims, characterized in that said primary clutch is mounted in said transmission (G) so that said converter can be subsequently inserted.